Patient semiconscious, paralysis of the left side of face and of the right arm and leg, the latter not well marked; involuntary passage of urine and feces. Clots, fragments of bone, hair, and torn brain substance were removed. To check bleeding thoroughly the bone was chiselled away until the main branch of the anterior meningeal artery was exposed, when a curved needle armed with a ligature was passed around it. Immediately after the operation consciousness returned and the patient was able to move the right arm and leg. Prompt healing of the wound and disappearance of brain symptoms.

3. Comminuted fracture of the left parietal bone, not compound. Rupture of the middle meningeal artery. Supradural hæmatoma. Crossed paralysis. Trephining and removal of the exudate. Death from pneumonia.

In this case the symptoms usually considered as diagnostic, *i. e.*, 1, an interval of freedom from marked symptoms after an injury; 2, gradual development of hemiplegia; 3, the typical pressure pulse; 4, stertorous respiration; 5, signs of a head injury, were all present. The skull was trephined at Krönlein's point of election, *i. e.*, the crossing of a horizontal line passing backward from the supraorbital margin and a vertical line extending upward from immediately behind the mastoid process. The clot was found to lie anterior to this opening. A second trephine opening was made at Vogt's point (middle meningeal), the clot cleared away and the bleeding checked. No immediate change in symptoms; gradually the sensibility returned and power of motion. Death on the seventh day from lobular pneumonia.

BARDELEBEN reports (*Deutsch. medicin. Woch.*, No. 24) a case of comminuted fracture of the skull, in which the wound lay directly over the centres for speech, facial expression (except the eye) and the motion of the forearm. Several hours after the extraction of some bone splinters the patient regained consciousness. The second day was characterized by an increase in the disturbance of speech and paralysis of face and forearm. On the evening of the third day the right arm and leg were suddenly affected with spasms lasting five minutes. These spasms recurred at intervals during the next five days, involving the arm and face, and, finally, the face alone. All symptoms gradually ameliorated, till, in four weeks from the operation, some weakness of the right hand was the only motor trace of the injury left.

OPHTHALMOLOGY.

UNDER THE CHARGE OF

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A NEW PRACTICAL OPHTHALMOMETER.

In the February number of the *Revue d'Ophthalmologie*, LEROY and DUBOIS describe an ophthalmometer which they claim to be capable of furnishing more correct results than the well-known instrument of Javal, and which, besides, has the advantage of being very considerably cheaper. Since the introduction of Javal's ophthalmometer many points of interest have been studied in connection with the different relations existing in different cases between the amounts of corneal and lenticular astigmatism. The instrument has also proved useful as a means of following the changes in corneal curvature which take place after operations, etc. Such an ophthalmometer, though hardly a necessary addition to the requirements of the practical ophthalmic surgeon, is yet so easily worked that it can undoubtedly lay claim to being a practical instrument.

In Leroy and Dubois's ophthalmometer a definite size of corneal image (0.044 inch) is taken, as well as a definite distance of object and image, and from the size of object corresponding to this image the calculation is made, once and for all, of the corresponding radius of curvature and consequently of the refractive power of the cornea. The image is known to be of a definite size when exactly double by an arrangement similar to that used by Helmholtz, and the distance is regulated by the focus of the telescope which carries the object the image of which is reflected from the cornea. This object is a graduated horizontal bar, at either end of which, and about eight inches apart, is a sight, one of which is divided into rectangular marks, alternately black and white and 0.196 inch in breadth. All that is necessary in making a measurement, after the instrument has been got into position, is to observe which of these rectangular intervals of the one sight exactly covers the sight on the other side, when the image on the cornea is doubled, and then to read off the number corresponding to the position of the rectangle, a number which is given in dioptres. A reading taken from any two meridians at right angles will thus give the value of the corneal astigmatism. The meridians of greatest and least curvature, which determine the position required for the axis of the correcting glass, are found in the following way: having discovered the difference in the refraction of the cornea in any two meridians at right angles to each other, that meridian is found the image of which corresponds to an object intermediate in size between the first two. The meridians of greatest and least curvature lie at angles of 45° to either side of this meridian.

CONJUNCTIVITIS ÆSTIVALIS.

An important paper on spring catarrh is contributed by **HANSEN GRUT** in the first number of the new Scandinavian ophthalmological journal (*Nordisk Ophthalmologisk Tidsskrift*), of which he is the editor. The subject is very indifferently treated in the text-books. The following is a *résumé* of Grut's description:

The affection begins in spring or summer with subjective symptoms similar to those of an ordinary conjunctivitis, though there is but little increase in the secretions. Generally there is a circumscribed injection of the peri-corneal vessels and in this situation small gray, semi-transparent, nodules of a cartilaginous consistency make their appearance. Often there are no distinct nodules, but a continuous and swollen infiltration at one part of the conjunctiva surrounding the cornea. The swelling, though it may to some extent overlap the cornea, is always clearly defined, and the cornea remains perfectly clear, while the immediately surrounding portions of the conjunctiva assume a whitish appearance. The accompanying objective and subjective symptoms are subject to exacerbations and remissions during the course of the disease. They diminish in the autumn, the infiltrations flatten down or disappear, leaving, however, a certain degree of opacity just at the border of the cornea; the following spring the attacks recur and this state of matters may continue for years.

The form just described is the mildest and seems to be the best known. Often on everting the lids the surface of the tarsus, especially of the upper lid, is found to be whitish, as if covered with a thin layer of milk. In more severe cases the tarsal portion of the conjunctiva of the upper lid is covered with flattened granulations, the edges of which lie close up to each other. By pinching up the everted lid from side to side the separate granulations come into prominence, showing too the deep furrows which exist between them. A thin probe can then be passed in under them, so that they can be shown to be mushroom-shaped, each being perched on a narrow pedicle. The granulations cause the eyelids to droop, and the appearance at first sight closely resembles that met with in trachoma. These flattened granulations are the most characteristic changes in the severer cases and, although they do not altogether disappear in winter, they are subject to the same exacerbations as are met with in the conjunctival swellings surrounding the cornea.

Hansen Grut believes that the disease is often mistaken for trachoma and gives the following points of differences by which they are clinically sharply defined: the trachomatous granulations never lose their rounded surface and are not separated by deep furrows, whereas those of spring catarrh are flattened and separated by furrows. Trachoma leads to cicatricial changes, deep-seated linear cicatrices. The infiltration in trachoma passes into the tarsus, leading to alterations in its shape, to trichiasis and to entropion. This *never* occurs in the case of the granulations characteristic of spring catarrh; when the disease, after many years' duration, has disappeared the conjunctiva is left smooth and whitish, but is not the seat of any actual cicatricial formation and the tarsus retains its form. A long-continued trachoma is almost always associated with pannus. In spring catarrh, on the other hand, the cornea is never affected. This is of prognostic importance and, besides, interesting as showing that trachomatous pannus has not a mechanical origin—that is, is not set up by the friction of the uneven surface of the lid on the cornea. This is more especially evident from the fact that the spring catarrh granulations are much harder and often more massive than those found in trachoma. The granulations never appear on the lower lid.

Notwithstanding the great chronicity of spring catarrh and its rebelliousness to any treatment, cases are occasionally met with in which all the changes disappear in an almost incredibly short space of time without leaving a trace. An instance of this is cited: a case which had been under the writer's treatment since 1866, in which, after puerperal fever, which occurred many years afterward, there was a complete cure, although massive granulations had existed for sixteen to eighteen years. The granulations differ also anatomically from the trachomatous form and consist mainly of a hyperplasia of the superficial elements of the conjunctiva. The affection is always bilateral and is met with in children and in adults under thirty-five years.

With reference to the name "spring catarrh" the following remark may be quoted: "It has been generally supposed that the disease has an intimate connection with the warmer seasons of the year and comes and goes with those seasons; hence its name. I have already mentioned that the granulations, at all events, do not disappear in the winter. It is doubtful, indeed, if the summer exacerbation, which certainly takes place, is the most characteristic phenomenon in connection with the affection. The same holds good of other chronic diseases of the conjunctiva. Phlyctenular conjunctivitis flourishes in spring and summer; the severe exacerbations of trachoma also take place during the warmest summer weather. Heat, with dry air and dust, is certainly irritating to a mucous membrane disposed to inflammation."

The treatment recommended is the destruction of the granulations with the thermo-cautery; sulphate of copper and nitrate of silver do harm.

TRAUMATIC PARALYSIS OF THE SIXTH NERVE.

PURTSCHER has made a very exhaustive examination of the literature of traumatic paralysis of the sixth nerve, a report of which he gives in the June number of the *Archiv für Augenheilkunde.* The cases are classified in different ways, according to the nature of the complications caused by the injury which has given rise to the adducens paralysis. Traumatic paralysis of the sixth is rare in comparison with the frequency of injuries to the skull, though relatively common as an isolated paralysis. Bilateral paralysis is much more frequent in the traumatic than in the idiopathic cases. Most frequently, when the paralysis occurs on the one side alone, it is on the side of the injury.

ON CERTAIN PUPILLARY CHANGES MET WITH IN CHRONIC PULMONARY DISEASE.

COMINI (*Annali di Ottamologia,* 1888) gives the histories of nine cases in which he has observed mydriasis in phthisis. Most frequently it occurred on the right side, coincidently with an alternation at the apex of the lung on the same side. Sometimes it was bilateral. Photophobia and paresis of accommodation accompanied the mydriasis in some cases. The dilatation of the pupil was sometimes transitory, though it did not ever appear, as maintained by Rampoldi, who first described the form, to stand in any direct connection with the temporary aggravation of any of the symptoms. Rampoldi believed the cause to be a reflex irritation, as in the case of mydriasis proceeding from irritation of the mesenteric plexus. Comini suggests that possibly, sometimes at all events, the sympathetic may be directly involved in the disease.

THE DONDERS "FESTSCHRIFT."

In accordance with the law of Holland, professors at the universities are obliged to retire when they have attained the age of seventy years. On the occasion of the retirement of Professor Donders, which took place on the 27th of May, he was presented by a number of his former pupils with a Festschrift, in the shape of a handsome volume, containing original contributions from forty different authors. The volume embraces treatises on various medical subjects, only fifteen of which are purely ophthalmological. Of these fifteen, the following are the most important: VAN MOLL, On the Absence of Torsional Movements on Lateral Fixation; STRAUB, On the Anatomy of the Corpus Vitreum; VAN BRAAM HOUCKGEEST, The Superior Oblique Muscle; NUEL, On the Treatment of Corneo-scleral Ruptures; HAMBURGER, The Influence of the Section of the Optic Nerve in Frogs on the Movement of the Pigment in the Cones and Retina; MULDER, Vertical Lines as seen with the Head bent to either Side; SNELLEN, Myotics and Sclerotomy in Glaucoma. Most of these are, as will be seen, of a theoretical nature and do not call for further consideration here.

Nuel draws attention to the fact that rupture of the external coats of the eye, caused by severe contusions, takes place, in the immense majority of cases, concentrically with the corneo-scleral border. He points out very correctly that the site of such ruptures corresponds to the angle of the anterior chamber, so that they do not involve the ciliary body, as is so often assumed to be the case. To this circumstance is to be ascribed the comparatively favorable course which accidents of this nature are likely to take, as far as the supervention of any severe inflammation, leading to destruction of the eye, is concerned. There is, however, often a tendency for the wound in the sclera to remain open; so that the anterior chamber is either only imperfectly or not at all re-formed, while the aqueous accumulates below the conjunctiva and raises it in the form of a bleb in front of the wound. Nuel recommends for such cases a treatment which he has found very successful. It consists in performing with a narrow knife a sclerotomy through the wound and drawing the surrounding conjunctiva over it by means of a suture placed in an original manner. The object of the operation is to cover the wound with as thick a mass of superficial tissue as possible. To effect this, the knife, after cutting through the tissues filling up the space between the lips of the wound in the sclera, is directed backward, so as to cut out a deep flap of conjunctiva. A suture is then placed in the following manner: it is entered at the equator of the eye as far back as possible and passed out and in (basted) through the conjunctiva for a considerable distance, parallel with the corneo-scleral margin. The needle is then carried diagonally over to the conjunctiva immediately surrounding the cornea at the opposite end of the wound and the thread basted in a similar manner close to the cornea and finally brought out beyond the wound at the other side. The two ends of the thread are then tied tightly together. In this way a large mass of conjunctiva is puckered up over the wound in a much more efficient manner than could be done by the introduction of a number of sutures in the ordinary way.

Snellen refers to v. Graefe's caution against substituting sclerotomy for iridectomy and ascribing the effect of iridectomy to the wound in the corneo-scleral margin. He points out, however, that at that time the value of myotics and the combination of myotics with sclerotomy as a means of reducing abnormally increased tension was not known. Snellen recommends the latter treatment as a suitable one to begin with in most cases, as, if not successful, it can be followed by iridectomy. In two cases in which he simultaneously performed iridectomy on one eye and sclerotomy on the other, followed by pilocarpine, the sclerotomized eye retained the best vision. In both cases, though, it was the last to be attacked by the glaucoma. He has observed complete and permanent cure of glaucoma result from sclerotomy. In one case twenty years have elapsed since the operation. Snellen considers myotics of prognostic value. When under their action the pupil contracts and the tension is diminished, a good effect may be expected from an operation. He describes a case of glaucoma in an eye with irideremia and refers to the two similar cases published by v. Graefe. In this case the tension was reduced by the use of pilocarpine, which he believes can only be ascribed to its action on the ciliary muscle. He makes the following suggestions as to the manner in which sclerotomy and myotics favorably influence the glaucomatous process: "The circular fibres act in the same direction as the contraction of the pupil, viz., toward the axis of the eye. The base of the ciliary body must thereby be drawn inward. Contraction of the meridional fibres is supposed to draw the anterior attachment backward and the posterior one forward. As by increased tension the uvea is pressed against the sclera and its displacement rendered less easy, the contraction would be more appreciable in the anterior part and, by dragging on the anterior wall of Schlemm's canal, would release the tension on the tissues further back. A portion of the radial fibres end in the membrane of Descemet. Might it not be supposed that from a sclerotomy, aided by a strong myosis, the posterior lamellæ of the cornea may be so extended that a gaping wound results in Descemet's membrane, which, otherwise, owing to its endothelial covering, is impervious." This supposition of a patency of the inner portion of the scleral section remaining permanently is considered by Snellen to be supported by the flattening of the cornea and consequent astigmatism which are so commonly observed after sclerotomy.

DISEASES OF THE LARYNX AND CONTIGUOUS STRUCTURES.

UNDER THE CHARGE OF

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The Influence of Diathesis in Diseases of the Larynx.

Dr. Senac-Lagrange, in an elaborate article (*Annales des mal. de l'oreille, du larynx, etc.*, Mai et Juni, 1888), contends that there is a prominent etiological element in all laryngeal inflammatory diseases due to dynamic conditions, and indicated by paretic or by contractural conditions as presented in the subjects of the lymphatic or of the arthritic diathesis, or of the hybrid resultant in which lymphatism is usually predominant.

He supports this new theory in etiology by numerous examples taken from the records of cases of dysphonia, paralysis, spasm, catarrhal and glandular laryngitis, syphilis and tuberculosis; and by tracing the connection between the diathesis, which has usually escaped the cognizance of the recorders, though distinctly indicated in their clinical histories, and the accurate descriptions of the anatomical changes detailed.